Yerith-erp-pgi-Workflow-BUSINESS 2
yerith-erp-9-0-product-sheet 3
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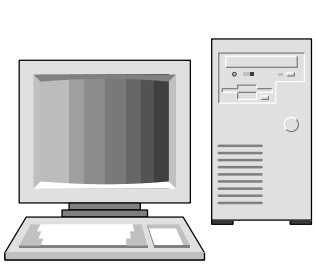
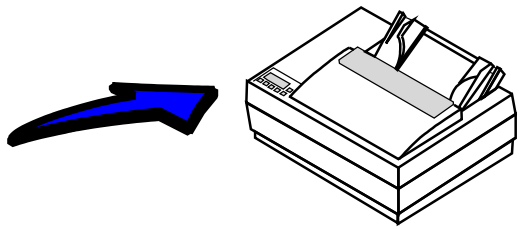
yerith-erp-9-0-installation-guide-standalone 10

Yerith R&D

Yerith-erp-pgi platiNum business Workflow

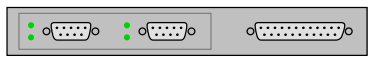
All yerith-erp-pgi-9.0-platiNum customers and / or clients computers collaborate troughout a computer network to deliver Maximum performance to their Employers.



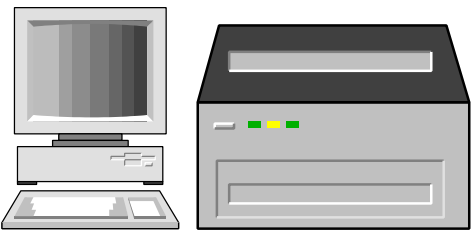


Business Information / Data Report

YERITH-ERP-PGI-9.0-platiNum



BUSINESS data about clients customers, suppliers, and / or Employees are manipulated.



YERITH–ERP–9.0 Software System Product Sheet

YERITH–ERP–9.0 is an **ERP software system** with 6 **user roles, and types**:

1. « Administrator »
2. « Business manager »
3. « Cashier »
4. « Seller »
5. « ASSET – stock manager »
6. « Storekeeper ».

Business manager's main window

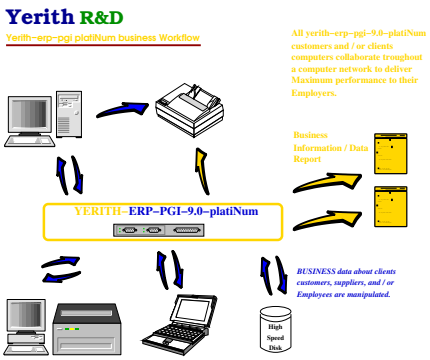
YERITH–ERP–9.0 **features**:

1. alerts over stock quantity, and, time period
2. business dashboard
3. HR (human resources), customer relationship management (CRM), budget line management
4. sale management (e.g. point of sale)
5. ASSET – stock management (e.g. check in)
6. user, and role administration
7. wildchar searches with character %.

YERITH–ERP–9.0 **is**:

1. easier, and, intuitiver, in its use
2. lighter, and, faster, in memory usage
3. multi sites.

YERITH–ERP–9.0's runtime memory usage test is realized using run–time software analysis tool **valgrind**.
GENERAL SOURCE CODE QUALITY CONTROL is realized with compile–time code analysis tool **Cppcheck**.



BUSINESS workflow of YERITH–ERP–9.0

OPERATIONS

Point of Sale Hardware

- ✓ Barcode scanner
- ✓ Thermal printer, etc.

Database Management Systems

- ✓ MySQL

Operating Systems

- ✓ Debian–Linux

Author: "Xavier Noumbissi Noundou [Pr. Prof. Dr.–Ing.]"
Version of – November 14, 2024 –

Advantages of YERITH–ERP–9.0 Compared to other top ERP Software Systems

YERITH–ERP–9.0 is a very easy to use ERP (Enterprise Resource Planing) software system because of its characteristics:

1. separate views for each user role
2. complete and fundamental training in 8 days
3. easy to use graphical user interface (GUI)
4. no college or university training needed
5. no formal business training needed
6. no financial accounting training needed
7. no internet connection needed.

Stock listing window

Table 1 pictures the 'effectiveness' and 'simplicity' of YERITH–ERP–9.0, compared to other top ERP software systems "Sage Gescom i7", and "SAP Business One".

	YERITH–ERP–9.0	Sage Gescom i7	SAP Business One
separate views per user role	YES	YES	YES
complete training (or solution)	at least 4 weeks	at least 2 months	at least 3 months
difficulty in navigation	easy	very difficult	very difficult
usage language in software	easy everyday English	simple	technical
financial accounting knowledge	no	no	useful
advanced marketing knowledge	no	useful	useful
internet connection	optional	optional	optional

Table 1: Comparison between YERITH–ERP–9.0 and 2 top tier–1 full featured ERP software systems

OPERATIONS

Point of Sale Hardware

✓ Barcode scanner
✓ Thermal printer, etc.

Database Management Systems

✓ MySQL

Operating Systems

✓ Debian–Linux

YERITH–ERP–9.0 Point Of Sale Recommended Hardware

1 Barcode Scanner

We recommend, but not exclusively, the use of barcode scanner: **" Xfox FJ–5 USB Plug and Play Automatic Barcode Scanner "** (approx. 17€).

Bar-code Scanner

2 Thermal Printer

ALL EPSON THERMAL PRINTERS !

We recommend, but not exclusively, the use of thermal printer: **" Epson TM T20ii Point of Sale Thermal Printer "** (approx. 100€).

Thermal Printer

3 Cash Drawer

We recommend, but not exclusively, the use of cash drawer: **" HP QT457AT "** (approx. 90€).

Cash Drawer

4 Touch Screen Monitor

We recommend, but not exclusively, the use of touch screen monitor: **" ASUS 15.6" LCD Monitor (VT168H) "** (approx. 155€).

Touchscreen Monitor

5 Computer

We recommend, but not exclusively, the use of desktop computer: **" Lenovo Thinkcentre M720 Small Form Factor (SFF) "** (approx. 450€).

Computer

6 Multi User Terminal Computer

We recommend, but not exclusively, the use of multi user terminal computer: **" NC–300 Multi User Terminal Computer"** (approx. 112€).

Multi User Terminal Computer

✓ ***PECULIARITIES IN CERTAIN COUNTRIES AND/OR REGIONS*** **USAGE OF POINT–OF–SALE (THERMAL) PRINTERS REQUIRES ALSO ACQUISITION OF A GOVERNMENT–SOLD DEVICE FOR RECORDING AND CERTIFYING ALL FINANCIAL TRANSACTIONS BETWEEN THE THERMAL PRINTERS AND/OR YERITH–ERP–9.0 (e.g.: GERMANY, CANADA, etc.).**

Table 2.1: Devices and hardware useful for YERITH–ERP–3.0.

Figure 2.1: **Computer (MANDATORY)**

Figure 2.2: **Touchscreen Monitor (MANDATORY)**

Figure 2.3: Cash Drawer **(OPTIONAL)**

Figure 2.4: "Point of Sale Thermal Printer" **(OPTIONAL)**

Figure 2.5: Bar-code Scanner **(OPTIONAL)**

Figure 2.6: 1 Network Router **(MANDATORY)**

Figure 2.7: Numeric Tablet **(OPTIONAL)**

Figure 2.8: "2 in 1 Computer" **(OPTIONAL)**

Figure 2.9: Multi User Terminal Computer **(OPTIONAL)**

Figure 2.10: Hardware components of Multi–User Terminal Computer NC–300 (at `https://www.savingology.com`): images are taken from SavingOology.com.

Figure 2.11: NC–300 PCI card

Figure 2.12: NC–300 terminals

Information Brochure of the ERP software system YERITH–ERP–9.0

"Xavier Noumbissi Noundou [Pr. Prof. Dr.–Ing.]"

Tasks	« Business manager »	« Seller »	« ASSET – stock manager »	« Storekeeper »	« Cashier »
create a department	✓				
insert 1 ASSET, stock, or service	✓	✓ (SERVICE)	✓ (ASSET / STOCK)		
delete ASSET, stock	✓				
view ASSET, stock	✓	✓	✓	✓	✓
modify ASSET, stock	✓		✓		
transfer ASSET, stock	✓		✓	✓	
check–out ASSET, stock	✓		✓	✓	
modify ASSET, stock management strategy (e.g.: « FIFO », etc.)	✓	✓ (NO PERMANENT)	✓ (NO PERMANENT)		
point of sale	✓	✓			✓
view ASSET, stock transfers	✓		✓	✓	
purchase management	✓	✓	✓ (PARTIAL)		
supplier management	✓				
customer relationship management (CRM)	✓	✓ (PARTIAL)			
business dashboard	✓				
sale return	✓				
view sales information	✓	✓ (SELF)			

Table 1: YERITH–ERP–9.0 functions–tasks, and associated users–roles.

1 Developer Biography

Figure 1: Portrait of Dr.–Ing. XAVIER.

"Xavier Noumbissi Noundou [Pr. Prof. Dr.–Ing.]" is a CHRISTIAN BY FAITH, Cameroonian, born on September 16 1983 in DOUALA (LITTORAL region, CAMEROON).

Xavier has a *"Diplom–Informatiker (Dipl.–Inf.)"* qualification from the **University of Bremen, Bremen, Bremen, GERMANY** (May 25, 2007).

XAVIER NOUNDOU IS A PHILOSOPHIAE DOCTOR (PH.D.) from **THE UNIVERSITY OF WATERLOO (ON, CANADA); DECEMBER** 20, 2011 **!**

Xavier has following academic research and professional engineering contributions:

1. 'Context-Sensitive Staged Static Taint Analysis For C using LLVM'
   1. source code in C++: https://www.github.com/sazzad114/saint
   2. full text: https://archive.org/download/yerith-saint-2021-MARCH-01/YERITH-SAINT-2021-MARCH-01.pdf
2. 'YERITH-ERP-3.0':
   1. source code in C++:
      a. YERITH–ERP–3.0: https://www.github.com/yerithd/yerith-erp-9-0
      b. YERITH–ERP–3.0 SYSTEM DAEMON: https://www.github.com/yerithd/yerith-erp-9-0-system-daemon
      c. YR–DB–RUNTIME–VERIF: https://www.github.com/yerithd/yri-db-runtime-verif
      d. YR_SD_RUNTIME_VERIF: https://www.github.com/yerithd/yri_sd_runtime_verif
   2. full text (ongoing publication): https://archive.org/download/yerith-erp-pgi-compendium_202206/JH_NISSI_ERP_PGI_COMPENDIUM.pdf .

2 Introduction

YERITH–ERP–9.0 is an **Enterprise Resource Planing** (ERP) software system.

Users of YERITH–ERP–9.0 could have the following roles:

1. « Administrator »
2. « Business manager »
3. « Cashier »
4. « Seller »
5. « ASSET – stock manager »
6. « Storekeeper ».

YERITH–ERP–9.0 allows for business management tasks (listed in Table 1), depending on user role, as follows:

1. create a department (e.g.: finance, asset, stock, etc.)
2. manage clients, and human resources, and suppliers
3. manage enterprise asset (e.g.: cars, etc.)
4. manage financial expenses WITH BUDGET LINES
5. manage inventory stock
6. manage sales
7. view business dashboards (across sites).

3 Potential Usages of YERITH–ERP–9.0

YERITH–ERP–9.0 potential usages are:

1. STOCK AND TRADE EXCHANGES MARKET PLACE
2. ENTERPRISE RESOURCE AND PLANING SOFTWARE for supermarkets and commercial stores
3. i.e. ANY NON GOVERNMENTAL ORGANIZATION, or GOVERNMENTAL ORGANIZATION.

4 Advantages of YERITH–ERP–9.0

1. YERITH–ERP–9.0 is 100% stable
2. YERITH–ERP–9.0 has an alert system with two types of alerts: alerts based on stock–quantity, and time–period alerts
3. users have the choice between small size receipts, and, bigger size receipts ("A4")
4. YERITH–ERP–9.0 runs on the Linux operating system, because Linux is stable, performant, and less vulnerable to security breaches in comparison to other operating systems ('`Windows 10`')
5. YERITH–ERP–9.0 has an user interface "Sales" to view sale information (Figure 3), and thus enables users to make managerial decisions
6. YERITH–ERP–9.0 has an interface "Business dashboard" that generates financial accounting reports, from sale and payment information, to help managers to make "business decisions".

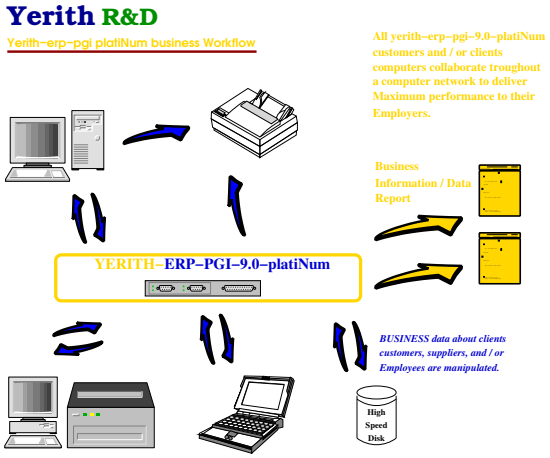


Figure 2: BUSINESS workflow of YERITH–ERP–9.0.

5 RUNTIME MONITORING daemon service as a parallel unharmful sub-process

STARTING year 2024, I have introduced a free runtime monitoring daemon service for tracking SQL transaction errors at runtime and recovering automatically from these errors via execution of pre-defined SQL-queries.

1.) A scientific document published openly at ZENODO.ORG (https://www.zenodo.org/records/10474033);

2.) THE OPEN-SOURCE FOSS (Free And OPEN SOURCE CODE SOFTWARE) location on the web–internet worldwide currently located at: Github.com (https://www.github.com/yerithd/yri-db-runtime-verif).

6 Alert System

Users with roles « Administrator » or « Business manager » are the ones able to create alerts.

YERITH–ERP–9.0 allows its users to create two types of alerts:

1. alerts over stocks–quantities
2. alerts over time intervals (this helps for perissable articles and for sales discounts over a period of time).

6.1 Alerts over Stock–Quantity

An alert aver a stock–quantity is a message that is sent to a pre–determined user whenever "pre–determined" stock–quantity (X) of a specific article–stock is reached.

For instance, Xavier (« Business manager ») could create an alert for stock "mango" that will be trigerred whenever stock "mango" quantity reaches 100; An alert–message is sent to user John (« Storekeeper »).

6.2 Alerts over Time–Period

A time–period is defined by a starting–date and an ending–date (dates are from the "gregorian" calendar).

An alert aver a time−period (T) is a message that is generated, sent to a pre−determined user, and kept within YERITH−ERP−9.0 from T's starting−date up to T's ending−date.

For example, an alert with a message has to be sent to Paul (« Cashier ») when the date of May 05^{th} is reached. The alert message specifies that a rebate of 20% has to be applied on every sale of yoghourt 'trèsbon' during a time interval of 2 weeks.

7 Database Management System

YERITH−ERP−9.0 uses `'MariaDB'` as the standard DBMS. `'MariaDB'` is very stable, very performant, and free−software.

8 Conclusion

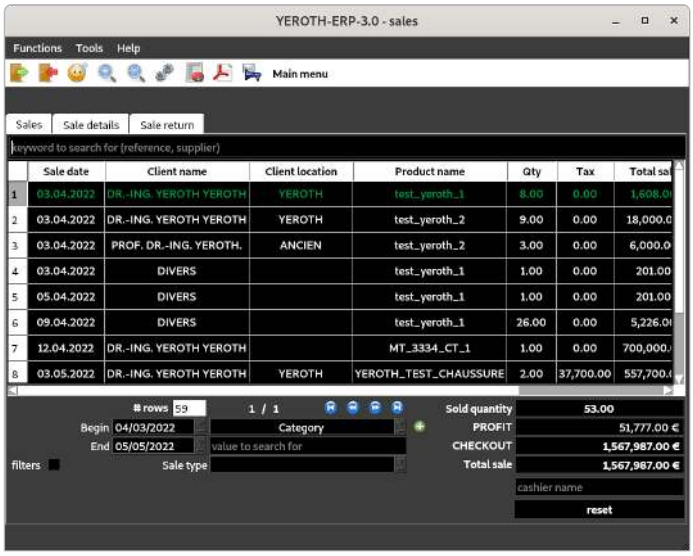


Figure 3: Sale−information window.

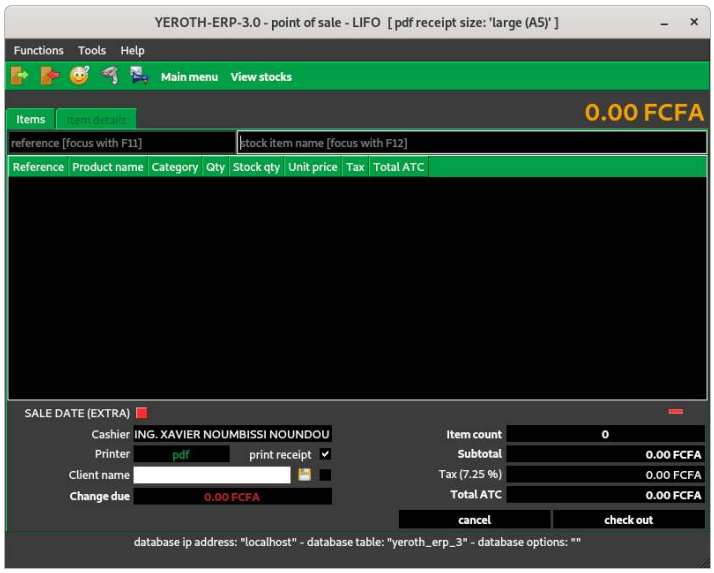


Figure 4: Point−of−sale window.

Figure 4 illustrates the window for selling articles.

Installation Guide for ERP Software System YERITH–ERP–9.0

"Xavier ~~NOUMBISSI~~ Noundou [Pr. Prof. Dr.–Ing.]"

VERSION: November 11, 2024

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Chapter 1

INTRODUCTION

1.1 Typography

Within this guide, all commands written in the following type setting:

```
command
```

are to be executed as "super user" ("root user").

1.2 HARDWARE REQUIREMENTS

1.2.1 SCREEN (computer Desktop)

YERITH–ERP–9.0 is best screen sized on a screen of 22 inch and higher !

1.2.2 RANDOM ACCESS MEMORY (RAM)

YERITH–ERP–9.0 could be used with a computer with a Random Access Memory (RAM) of about 512 Mb.

HOWEVER, FOR MAXIMUM PERFORMANCE, I RECOMMEND AT LEAST 2 GB OF RAM MEMORY !

1.3 Prerequisite Software

Table 1.1: Prerequisite software for installation of YERITH–ERP–9.0.

Software	Versions
Debian	11.1 (bullseye)
gdebi	$0.9.5.7+nmu5$
mariadb-server	$10.5.12-0+deb11u1$
mariadb-client	$10.5.12-0+deb11u1$
Qt	5.15.2
Texlive	$2020.20210202-3$

1.4 Files Required for Installation Procedure

Table 1.2: Files required for installation of YERITH–ERP–9.0.

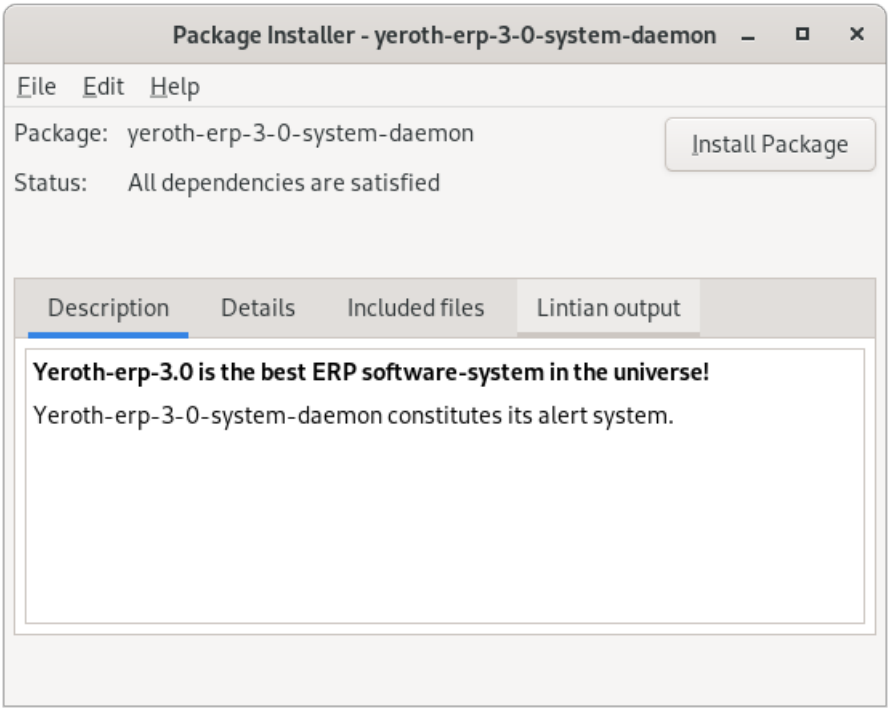
FILES
"**yerith-erp-9-0-standalone-ENGLISH.deb**"
"**yerith-erp-9-0-standalone-configurations-data-ENGLISH.deb**"
"**yerith-erp-9-0-system-daemon.deb**"

Table 1.2 illustrates files required for installing YERITH–ERP–9.0.

Chapter 2

AUTOMATED INSTALLATION with gdebi-gtk OR gdebi

Figure 2.1: Gdebi-gtk user graphical interface.



2.1 Installation of gdebi-gtk and gdebi

1. Open a "bash–terminal"
2. type following command:

```
apt -y install gdebi-gtk gdebi
```

2.2 Installation with gdebi-gtk

1. Open a "bash–terminal"
2. type following command:

```
gdebi-gtk yerith-erp-9-0-standalone-ENGLISH.deb
```

3. press button "Install Package"
4. repeat the previous command with files "**yerith-erp-9-0-standalone-configurations-data-ENGLISH.deb**" and "**yerith-erp-9-0-system-daemon.deb**" respectively.

2.3 Installation with gdebi

1. Open a ”bash–terminal”
2. type following command:

```
gdebi -n yerith-erp-9-0-standalone-ENGLISH.deb
```

3. repeat the previous command with files "**yerith-erp-9-0-standalone-configurations-data-ENGLISH.deb**" and "**yerith-erp-9-0-system-daemon.deb**" respectively.

Chapter 3

MANUAL Installation Procedure Of YERITH–ERP–9.0 – DBMS

3.1 INSTALLATION STEPS OF `mariadb-server` (ON REMOTE COMPUTER–SERVER)

Following steps have to be followed in order to have a well functioning installation of YERITH–ERP–9.0 – DBMS:

1. install database software `mariadb-server` (ON REMOTE COMPUTER–SERVER)
2. modify IF REQUIRED MYSQL CONFIGURATION FILE '/etc/mysql/mariadb.conf.d/50-server.cnf' (ON REMOTE COMPUTER–SERVER).

3.2 Installation of `mariadb-server` (ON REMOTE COMPUTER–SERVER)

1. Open a "bash–terminal"
2. type following command:

```
apt -y install mariadb-server mariadb-client
```

3.3 Modify MYSQL CONFIGURATION FILE '/etc/mysql/mariadb.conf.d/50-server.cnf'

APPLY THE FOLLOWING INSTRUCTIONS ONLY IF YOU REQUIRE YOUR YERITH–ERP–9.0 – DBMS to be on a REMOTE COMPUTER–SERVER DIFFERENT FROM 'localhost'!

1. MODIFY INLINE 'bind-address = 127.0.0.1' TO 'bind-address =YE.YF.YG.YH' WHERE 'YE.YF.YG.YH' REPRESENTS PUBLIC IP ADDRESS OF LOCAL DBMS–COMPUTER
2. this step requires a reboot of DBMS–mariadb–server:

```
service mariadb restart
```

Chapter 4

MANUAL Installation Procedure Of YERITH–ERP–9.0

4.1 INSTALLATION STEPS OF YERITH–ERP–9.0

Following steps have to be followed in order to have a well functioning installation of YERITH–ERP–9.0:

1. install `gdebi` and `expect` software
2. install YERITH–ERP–9.0 (`Qt` and `Texlive` are automatically installed)
3. modify configuration file 'yerith–erp–3–0.properties' to access YERITH–ERP–9.0 – DBMS.

4.2 Installation of `gdebi` and `expect`

1. Open a "bash–terminal"
2. type following command:

```
apt -y install gdebi expect
```

4.3 Installation of Qt, Texlive, and of YERITH–ERP–9.0

1. Open a "bash–terminal"
2. type command:

   ```
   gdebi -n yerith-erp-9-0-standalone-configurations-data-ENGLISH.deb
   ```

3. then type command (INSTALLS ALERT AND SAVE-BACKUP SYSTEM daemon):

   ```
   gdebi -n yerith-erp-9-0-system-daemon.deb
   ```

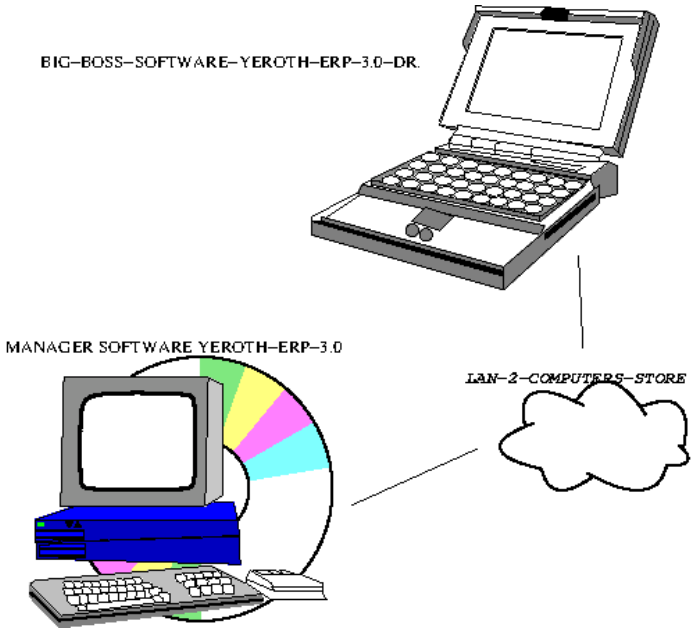
4. then finally type command:

   ```
   gdebi -n yerith-erp-9-0-standalone-ENGLISH.deb
   ```

   This command automatically installs Qt, and Texlive.

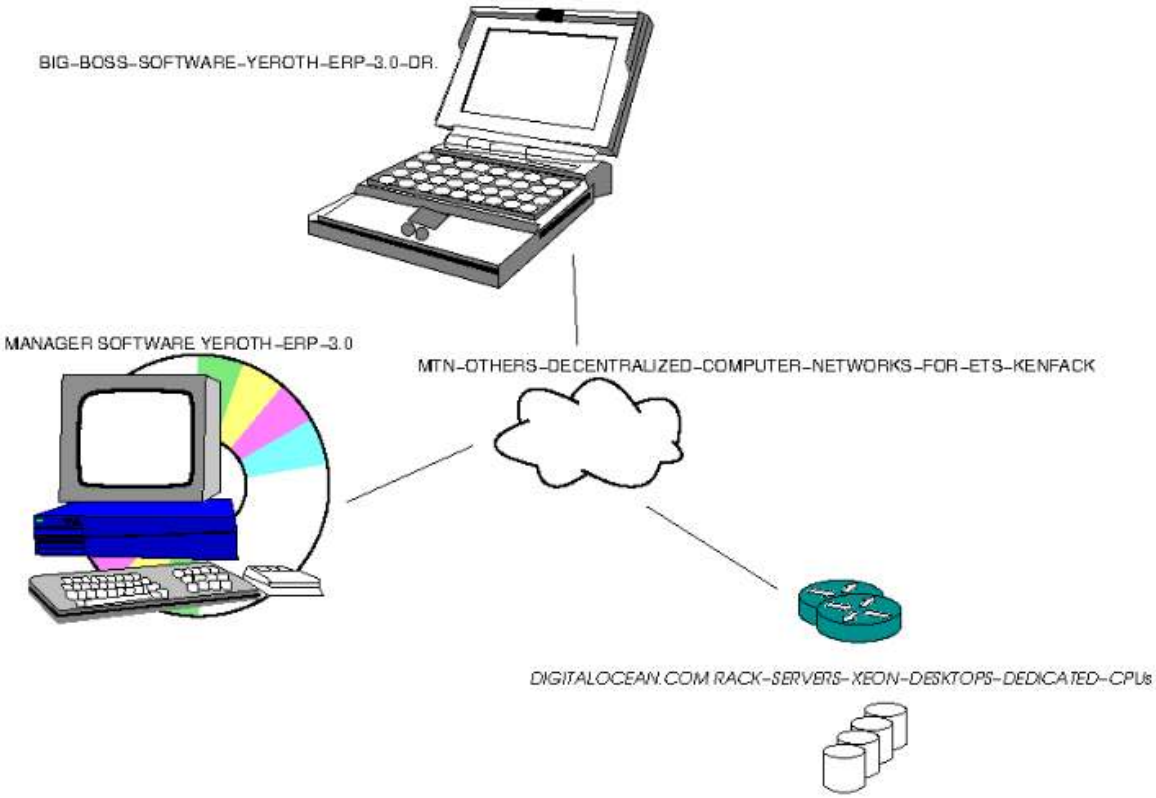
4.4 Sample 2 computers store

Figure 4.1: Sample 2 computers store.



4.5 Sample decentralized multi sites supermarket

Figure 4.2: Sample decentralized multi sites supermarket.



4.6 Modify (IF REQUIRED) CONFIGURATION FILE 'yerith–erp–3–0.properties' to access YERITH–ERP–9.0 – DBMS

APPLY THE FOLLOWING INSTRUCTIONS ONLY IF YOU REQUIRE YOUR YERITH–ERP–9.0 – DBMS to be on a REMOTE COMPUTER–SERVER DIFFERENT FROM 'localhost'!

1. FILE 'YERITH–ERP–3–0.PROPERTIES' IS LOCATED AT LOCAL DRIVE: '/opt/yerith–erp–3–0–standalone–configurations–data'
2. MODIFY INLINE 'db_ip_address=localhost' TO 'db_ip_address=YE.YF.YG.YH' WHERE 'YE.YF.YG.YH' REPRESENTS REMOTE COMPUTER–SERVER–DBMS IP ADDRESS.

Appendix A

Standard Admistrative User Account 'admin'

After YERITH–ERP–9.0 successful installation, the application is accessible using a standard administrative user account with the following credentials:

1. user name: **admin**
2. user password: **admin1**

This administrative user account could be modified at your wish.

Appendix B

HOW TO CONFIGURE A POINT–OF–SALE THERMAL PRINTER

Appendix C

PREFERENCE FILES FOR A USER OF YERITH–ERP–9.0

Appendix D

YERITH–ERP–9.0 **CONFIGURATION FILES**

Appendix E

how to uninstall 'YERITH–ERP–3.0'

1. Open a "bash–terminal"
2. type command:

```
apt -y --purge remove yerith-erp-9-0-standalone-english
```

3. FINALLY, type command:

```
apt -y --purge remove yerith-erp-9-0-standalone-configurations-data-english
```

Appendix F

how to uninstall 'YERITH–ERP–3.0–SYSTEM–DAEMON'

1. Open a "bash–terminal"
2. type command:

```
apt -y --purge remove yerith-erp-9-0-system-daemon
```